

Issues and Opportunities

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The Boeing Company

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The Aviation Safety Focus

The Aviation World

Based on Global Market size over next 5 years



Asia &
Oceania

North
America

Europe
South
America

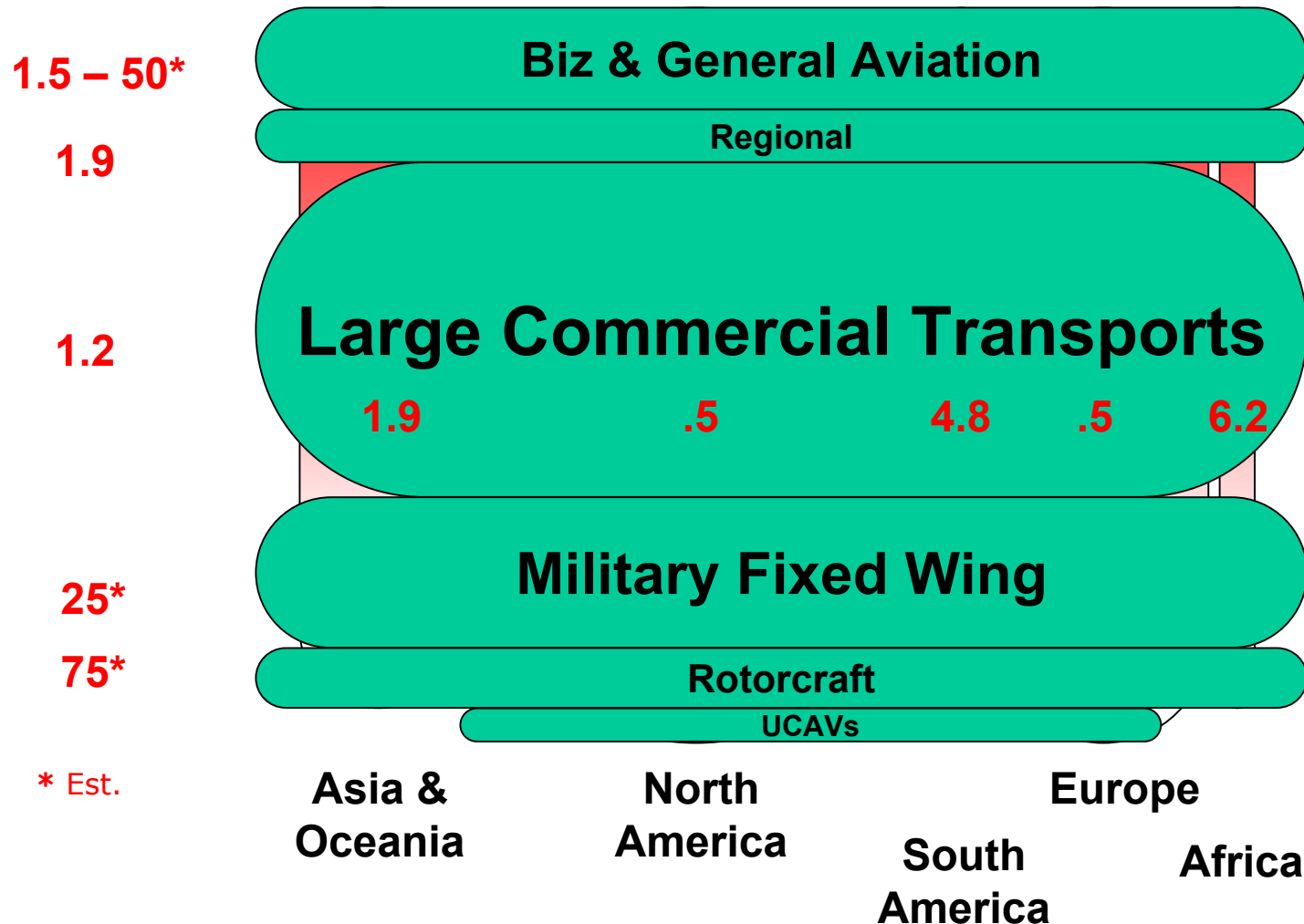
Africa



Based on Estimated Fleet size in 2004

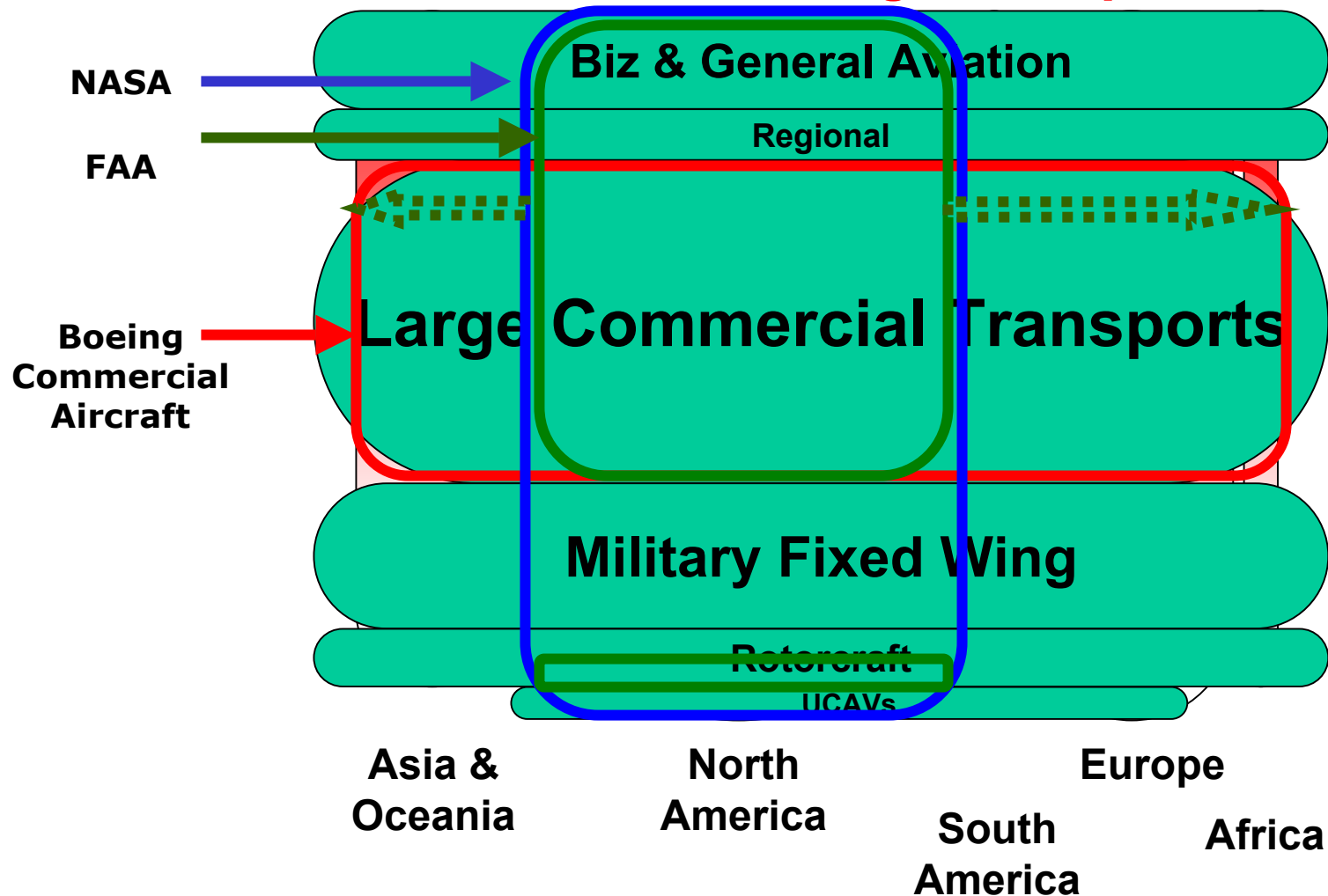
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Approximate Accident Rates per million flights



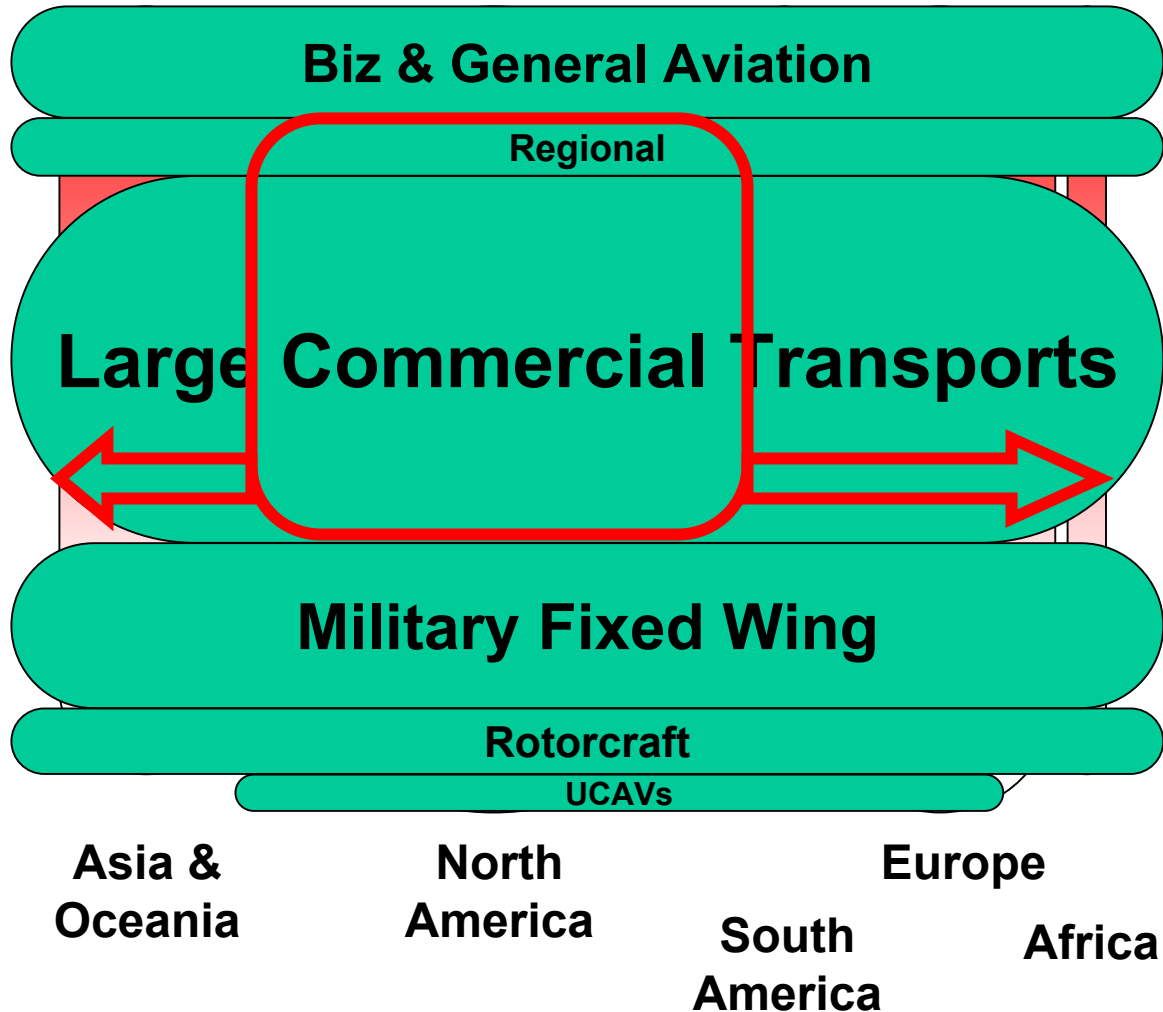
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NASA/FAA/Boeing Overlap



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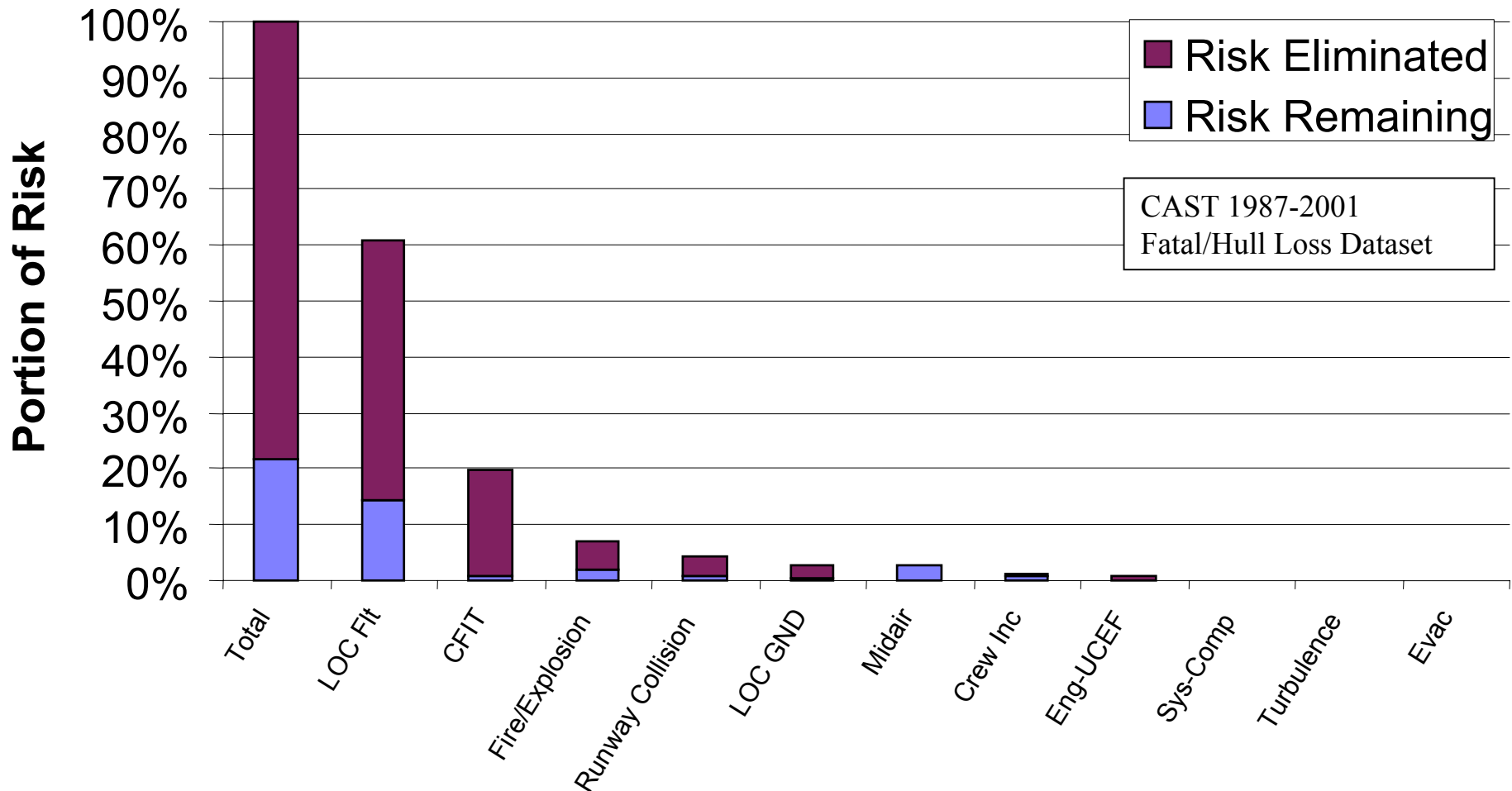
CAST Concentration



Effect of CAST “Approved Plan”

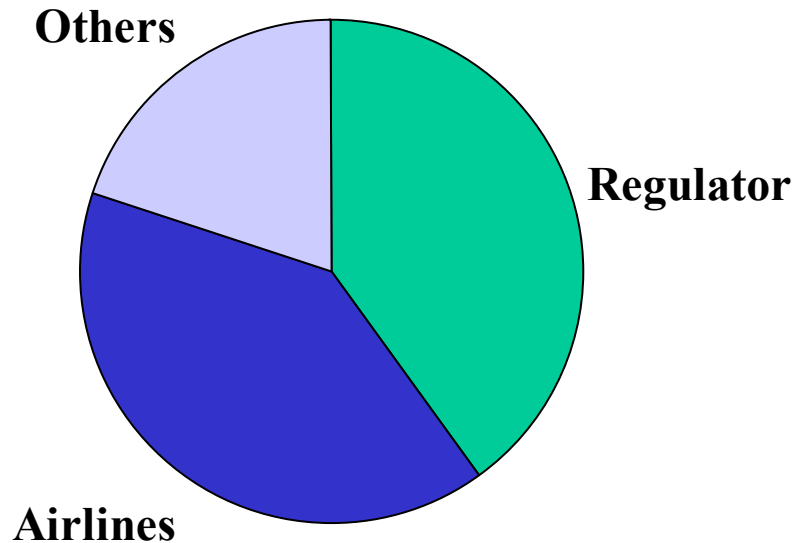
Hull Loss & Fatal Accidents

Portion of Total Fatality Risk Mitigated by the CAST Plan
(2007 Implementation Values) + Existing Safety Initiatives

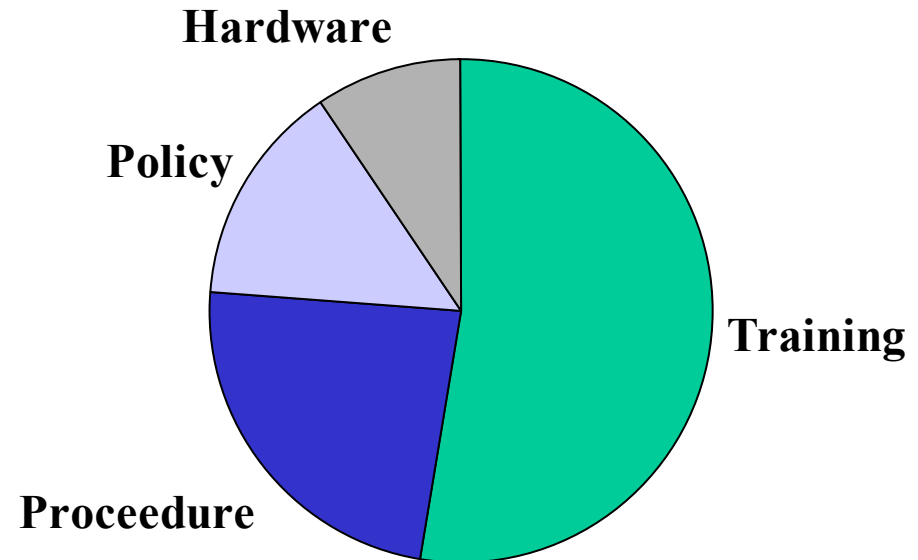


CAST Approved Plan

Resources Required to Implement

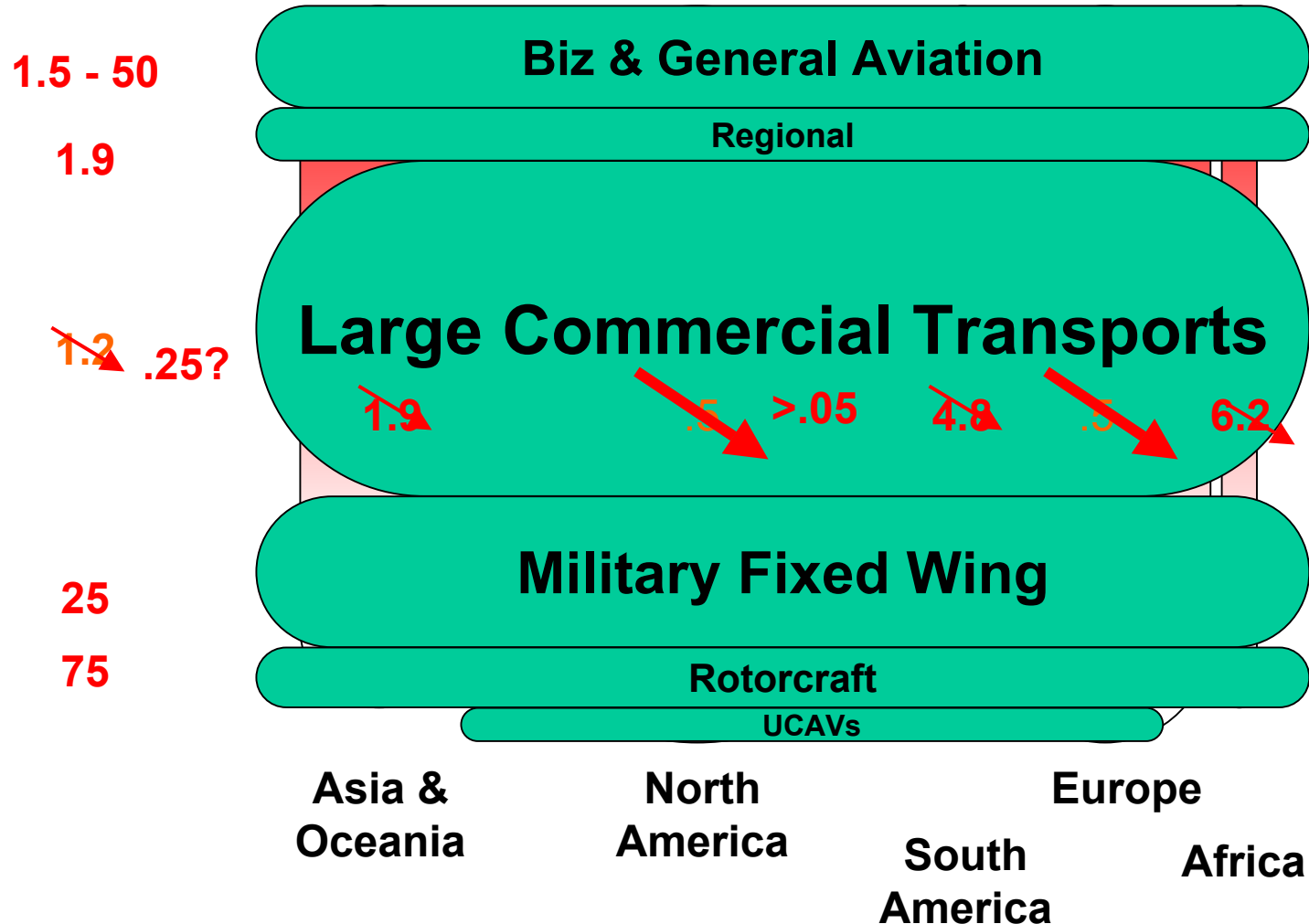


Type of Safety Enhancement



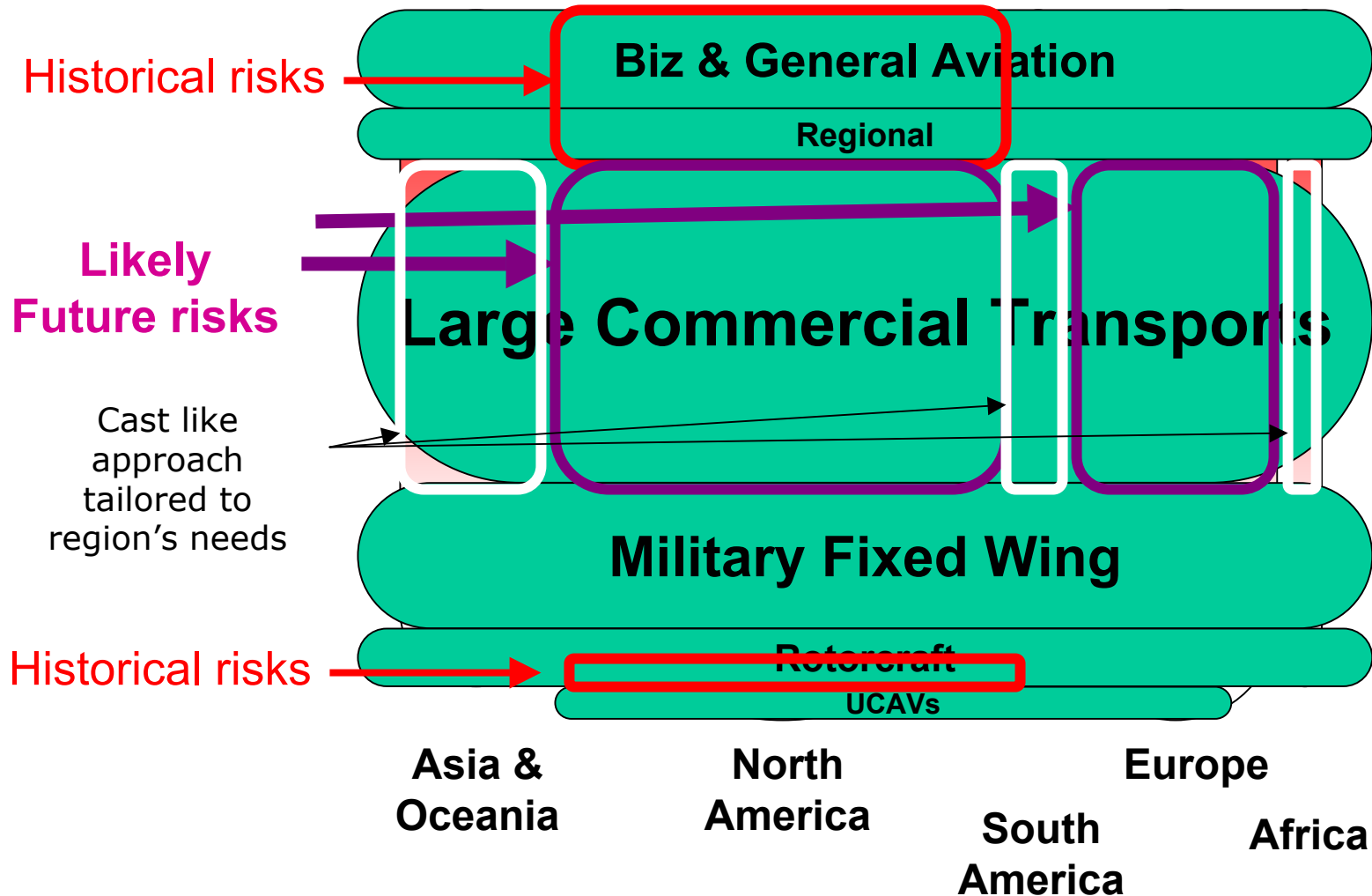
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Estimated Effect of CAST Approved Plan



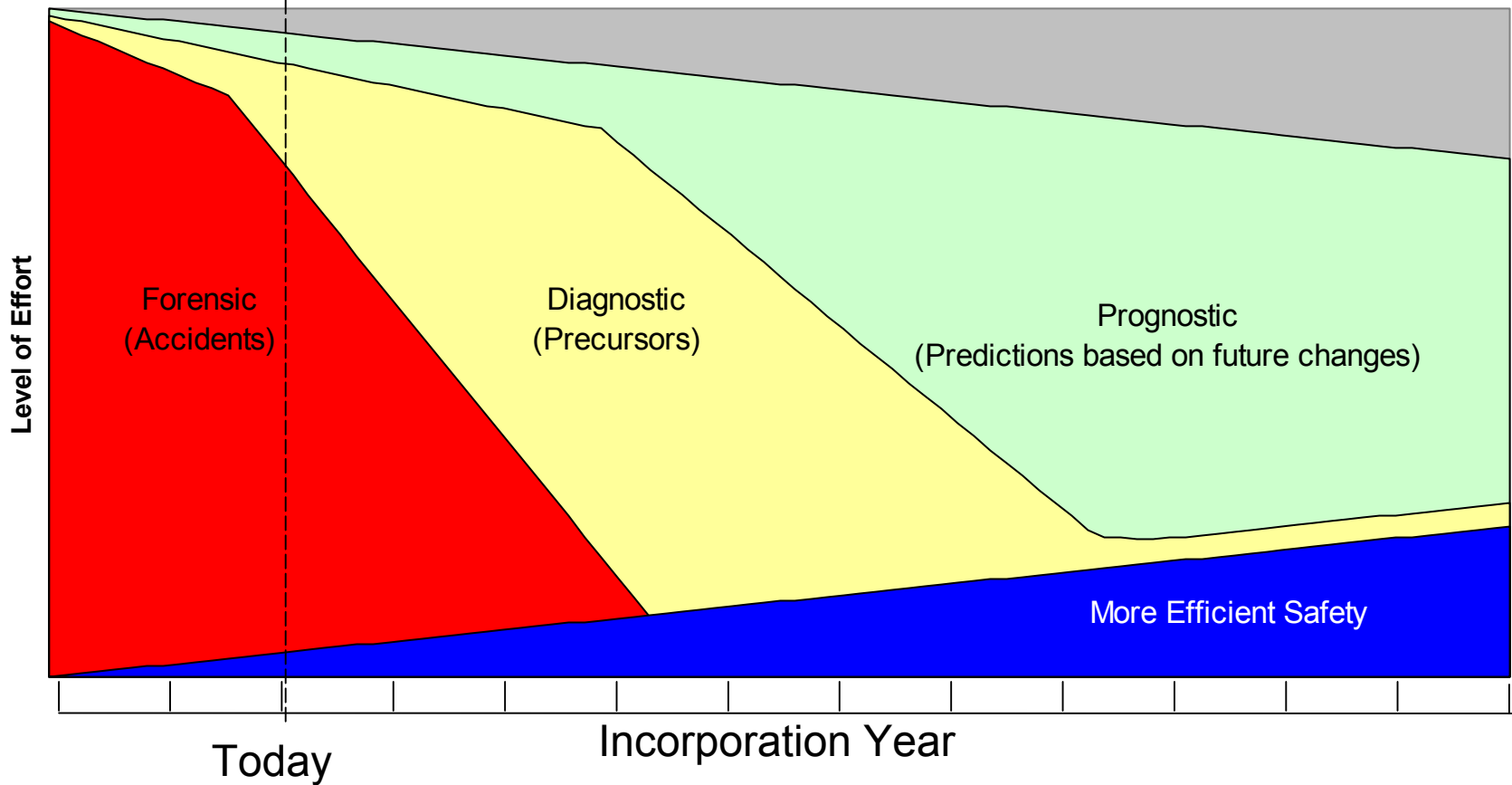
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Future Safety Research Concentration



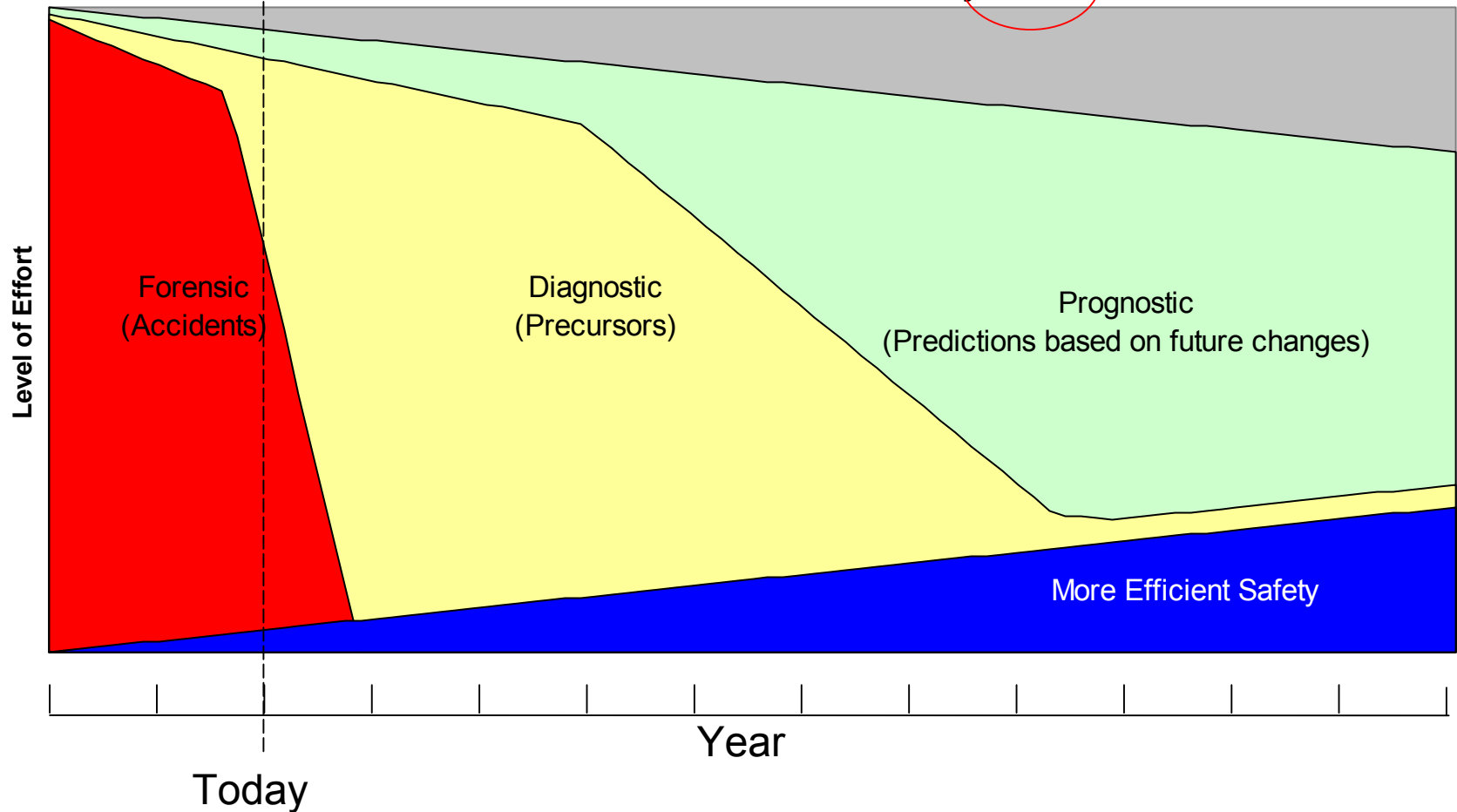
Level of Effort for Practitioners

Level of Effort Vs Time for Safety Incorporation



Level of Effort for Supporting Research

Level of Effort Vs Time for Safety R&D



Forensic: Risks that have resulted in accidents

Continued completion of forensic (historical) accident cause and safety enhancement work should be enthusiastically encouraged, with the goal of driving the domestic accident rate to zero. CAST is the prime means of doing this

- Turbulence injuries
- Injuries due to emergency evacuations (from non-emergency events)

Diagnostic: Risks that exist today

Every effort should be made to identify accident precursors (risks), to determine how to measure them, and collect the metrics. This will enable the aviation safety community to work to eliminate those precursors. Careful consideration should be given to how to do this work.

- Rapid, Concentrating Traffic Growth
- Even more emphasis on human contributions to safety
 - Are assumption re training, procedure, policy effectiveness correct, and will then endure?
- New materials and design practices
- Workforce demographics
 - Multi cultural flight deck (even at a single airline)
- Slippery Runway
 - How can runway friction in adverse weather be improved without damaging the environment, airport equipment or aircraft.
- Flocking Birds
 - Technologies for scaring birds, e.g. noise



Prognostic: Risks due to future

Knowledge regarding how to do the prognostic job is lacking, so much effort should be put toward determining how to proceed with that job.

changes

- Workforce demographics (Assumed manual skills vs. actual computer skills)
- Collision Prevention for more Autonomous Aircraft